



612.40180X00

AF
1743

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: DURIEZ et al

Serial No.: 09/887,066

Filed: June 25, 2001

For: Transport Device for Analyzing Hydrocarbon Containing Constituents

Art Unit: 1743

Examiner: SIEFKE, Samuel P.

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

Mail Stop AF
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 17, 2004

Sir:

This is in response to the Office Action mailed February 17, 2004, in connection with the above-identified application.

Claims 9 -23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,090,256 to Issenmann in view of United States Patent No. 5,566,720 to Cheney et al. Applicants traverse this rejection and request reconsideration thereof.

The rejected claims relate to an analysis and/or measuring device comprising means for extracting, in the gaseous form, hydrocarbons contained in a liquid drilling fluid after drilling in a reservoir rock, means for transporting the extracted gases and means intended for analysis and measurement of these extracted gases. The present invention represents an improvement in such an analysis and/or measuring device in that the transport means include a tubular line comprising an inner tube made from plastics material chosen to limit retention of traces of gaseous

hydrocarbon. The tubular line is typically several tens of meters long, e.g., 50 meters, separating the wellhead from the analysis and measurement means that are typically situated in a mud logging shelter separate from the extractor. Retention, adsorption and absorption phenomena in the tubular line can lead to erroneous qualitative analysis results and make quantification difficult or even impossible. See, the paragraph bridging pages 1 and 2 of applicants' specification. By choosing the plastics material from which at least an inner tube of the tubular line is made, applicants can limit the retention, adsorption and absorption phenomena with respect to the trace hydrocarbons. Such is neither disclosed nor suggested by either Issenmann or Cheney et al.

The patent to Issenmann discloses a method and apparatus for sampling the gaseous content of a liquid laden with solids. The method and apparatus involve sampling the liquid as close as possible to the source of the liquid. It is disclosed that a strainer housing having a strainer plate for filtering out debris in the liquid is connected to a suction pump for sucking the liquid into the housing and to the pump. The pump delivers the sampled liquid to a degassing device mounted on a frame within the pump. The degassing device agitates the liquid to liberate gases suspended therein. The gases are then collected from the degassing device so that the gases may be analyzed. A motor mechanism on the frame drives the pump a rotating agitator in the degassing device and a rotating scraper on the exterior of the strainer plate simultaneously. This method and apparatus are disclosed to be particularly applicable to the sampling of drilling mud from an oil well exploration site for purposes of analyzing the hydrocarbon content of the drilling mud. This patent discloses that a flexible tube 25 is connected to a nozzle 24 to conveying gases released from the liquid inside the container of the degassing device 23 to a

collecting tube 26 mounted thereto. The collecting tube 26, in turn, delivers the gasses through a tube 27 to an analyzing device (not shown). However, absolutely no mention is made in Issenmann of the need to provide any of these tubes with an inner tube that limits retention of trace hydrocarbons.

The patent to Cheney et al relates to an elongated fuel and vapor tube having multiple layers. The tube is disclosed to be for conveying fluids containing hydrocarbons and has an inner surface capable of prolonged exposure to the hydrocarbon-containing fluid made up of a melt processible fluoroplastic terpolymer composed of a polyfluorinated alkylene, and a-fluoro-olefin and a fluorinated vinyl compound. The tube is disclosed to be for use in a motor vehicle, in particular, as a fuel line or vapor recovery line in a motor vehicle. There is absolutely no suggestion in Cheney et al or in any of the prior art to use such a tube with the apparatus of Issenmann. Accordingly, there would have been no motivation to combine the teachings of Issenmann and Cheney et al in the manner urged by the Examiner.

Moreover, the present invention solves the problems of retention, adsorption and absorption phenomena in the tubular line separating the well head from the analysis and measurement means, the tubular line being several tens of meters long (see claim 15), e.g., 50 meters long. The problems inherent in the use of such a tubular line are not disclosed by either Issenmann or Cheney et al, and the solution of the present invention is certainly not suggested.

The Examiner alleges that the apparatus of Issenmann is applicable to the sampling of gaseous hydrocarbons suspended in drilling mud obtained from an oil exploration well, and that it is known that oil exploration wells are located offshore, miles away from land. Even assuming, however, *arguendo*, the Examiner's allegations are correct, this still does not supply motivation to use the fuel and vapor

tube of Cheney et al in the system of Issenmann. In the first place, the Issenmann patent refers only to known sampled gas including C1-C5 hydrocarbons (see, column 2, lines 42-49). It is submitted one of ordinary skill in the art would not expect heavy hydrocarbons (e.g., C7) to be extracted by a conventional device such as Issenmann's. The Issenmann patent does not provide any motivation to solve any problems associated with retention of heavy hydrocarbons (C4 and especially C5-C8, e.g., C7).

Secondly, the Cheney et al patent solves problems associated with permeation of organic materials, not retention. The phenomena of retention, adsorption and absorption are what the present invention seeks to prevent, not permeation. Retention, adsorption and absorption phenomena in the tubular line can lead to erroneous qualitative analysis results and make quantification difficult or even impossible. By choosing the plastics material from which at least an inner tube of the tubular line is made, applicants can limit the retention, adsorption and absorption phenomena with respect to the trace hydrocarbons. This is clearly not suggested by Cheney et al. Therefore, the prior art does not supply any motivation to combine the teachings of Issenmann and Cheney et al. The Examiners reasoning reflects a hindsight reconstruction of the prior art taught only by the teachings in applicants' specification. Accordingly, the presently claimed invention is patentable over the proposed combination of Issenmann and Cheney et al.

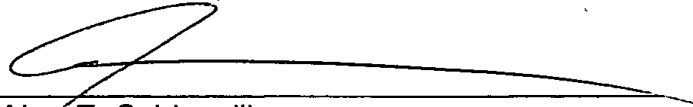
In view of the foregoing remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli,

Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.41682X00),
and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read 'Alan E. Schiavelli', written over a horizontal line.

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FEE TRANSMITTAL

for FY 2000

Patent fees are subject to annual revision.
Small Entity payments must be supported by a small entity statement,
otherwise large entity fees must be paid. See Forms PTO/SB/09-12.
See 37 C.F.R. §§ 1.27 and 1.28.

TOTAL AMOUNT OF PAYMENT (\$)**750.00**

Complete if Known

Application Number
Filing Date **June 25, 2001**
First Named Inventor **Gilbert DURIEZ**
Examiner Name
Group / Art Unit
Attorney Docket No. **612.40180X00**

1996 U.S. PTO
09/887066
06/25/01

METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge
Indicated fees and credit any overpayments to:

Deposit Account Number **01-2135**

Deposit Account Name **Antonelli, Terry, Stout & Kraus, LLP**

☒ Charge Any Additional Fee Required
Under 37 CFR §§ 1.16 and 1.17

2. ☒ Payment Enclosed:
☐ Check ☐ Money Order ☒ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
101 690	201 345	Utility filing fee	710.00
106 310	206 155	Design filing fee	
107 480	207 240	Plant filing fee	
108 690	208 345	Reissue filing fee	
114 150	214 75	Provisional filing fee	

SUBTOTAL (1) (\$)**710.00**

2. EXTRA CLAIM FEES

Total Claims	Extra Claims	Fee from below	Fee Paid
6	-20** = 0	18	0
1	-3** = 0	80	0
Multiple Dependent			0

**or number previously paid, if greater; For Reissues, see below

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
103 18	203 9	Claims in excess of 20 X
102 78	202 39	Independent claims in excess of 3
104 260	204 130	Multiple dependent claim, if not paid
109 78	209 39	** Reissue independent claims over original patent
110 18	210 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)**0.00**

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	0.00
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	0.00
139 130	139 130	Non-English specification	0.00
147 2,520	147 2,520	For filing a request for reexamination	0.00
112 920*	112 920*	Requesting publication of SIR prior to Examiner action	0.00
113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action	0.00
115 110	215 55	Extension for reply within first month	0.00
116 380	216 190	Extension for reply within second month	0.00
117 870	217 435	Extension for reply within third month	0.00
118 1,360	218 680	Extension for reply within fourth month	0.00
128 1,850	228 925	Extension for reply within fifth month	0.00
119 300	219 150	Notice of Appeal	0.00
120 300	220 150	Filing a brief in support of an appeal	0.00
121 260	221 130	Request for oral hearing	0.00
138 1,510	138 1,510	Petition to institute a public use proceeding	0.00
140 110	240 55	Petition to revive - unavoidable	0.00
141 1,210	241 605	Petition to revive - unintentional	0.00
142 1,210	242 605	Utility issue fee (or reissue)	0.00
143 430	243 215	Design issue fee	0.00
144 580	244 290	Plant issue fee	0.00
122 130	122 130	Petitions to the Commissioner	0.00
123 50	123 50	Petitions related to provisional applications	0.00
126 240	126 240	Submission of Information Disclosure Stmt	0.00
581 40	581 40	Recording each patent assignment per property (times number of properties)	40.00
146 690	246 345	Filing a submission after final rejection (37 CFR § 1.129(a))	0.00
149 690	249 345	For each additional invention to be examined (37 CFR § 1.129(b))	0.00
Other fee (specify)			0.00
Other fee (specify)			0.00

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)**40.00**

SUBMITTED BY

Name (Print/Type)	Registration No. (Attorney/Agent)	Telephone
Ronald J. Shore	28,577	703-312-6600
Signature <i>Ronald J. Shore</i>	Date	June 25, 2001

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